In the Claims:

1. (Original) A method for detecting a mobile unit by a Base Station, wherein frequency-hopping is used to communicate between Base Stations and mobile units, comprising:

at a Base Station that is connected to a mobile unit, periodically yielding a hop; and

during the hop which has been yielded by the Base Station connected with the mobile unit, communicating with the mobile unit from at least one neighboring Base Station.

2. (Original) Method, according to claim 1, further comprising:

at neighboring Base Stations that are not close to each other, using the same hop to communicate with the mobile unit; and

at neighboring Base Stations which are close to one another, using different hops to communicate with the mobile unit.

3. (Original) In a wireless communication system comprising a Base Station connected with a mobile unit, a method of detecting a mobile unit by at least one Base Station which is waiting for the mobile unit to enter its coverage area, comprising:

from the at least one Base Station waiting for the mobile unit to enter its coverage area, sending a PING command to the mobile unit; and

at the Base Station waiting for the mobile unit to enter its coverage area, receiving an ECHO reply from the mobile unit.

4. (Original) Method, according to claim 3, further comprising:

from the Base Station waiting for the mobile unit to enter its coverage area, sending the PING command during a time interval that the Base Station connected with the mobile unit has yielded.

5. (Original) Method, according to claim 3, further comprising:

at each Base Station receiving the ECHO response, measuring the quality of the ECHO response and reporting the quality measurements to a Switch connected to the Base Stations.

6. (Original) Method, according to claim 3, further comprising:

measuring the quality of each ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).

7. (Original) Method, according to claim 3, wherein:

the PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and

the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.

8. (Original) Method, according to claim 3, further comprising:

at each Base Station, maintaining information about connections between mobile units and neighboring Base Stations, wherein the information is selected from

the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.

9. (Original) Method, according to claim 8, wherein the handset detection status information comprises information selected from the group consisting of number of successful PING, time of last successful PING, quality measurements for successful PINGs.

10. (Original) Method, according to claim 3, wherein the mobile unit is a device selected from the group consisting of:

telephone handset, standard cordless telephone handset, cellular telephone handset, personal data device, personal digital assistant (PDA), computer, laptop computer, e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet via a central remote access server,a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.

11. (Original) Method, according to claim 3, further comprising:

providing communication links between the Base Stations, wherein the communication links between the Base Stations are selected from the group consisting of RF links and land lines; and

transferring connection status information and rough synchronization information between the Base Stations over the communications links.

12. (Original) Method, according to claim 3, wherein:

the wireless communication system comprises a wireless private branch exchange (**WPBX**) handling calls from mobile units comprising handsets.

13. (Original) In a wireless communication system comprising a Base Station connected with a mobile unit, a method of detecting a mobile unit by at least one Base Station which is waiting for the mobile unit to enter its coverage area, comprising:

from the Base Station connected with the mobile unit, sending a PING command to the mobile unit; and

at the Base Station waiting for the mobile unit to enter its coverage area, receiving an ECHO reply from the mobile unit in response to said PING command.

14. (Original) Method, according to claim 13, further comprising:

at each Base Station receiving the ECHO response, measuring the quality of the ECHO response and reporting the quality measurements to a Switch connected to the Base Stations.

15. (Original) Method, according to claim 13, further comprising:

measuring the quality of each ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).

16. (Original) Method, according to claim 13, wherein:

the PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and

the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.

17. (Original) Method, according to claim 13, further comprising:

at each Base Station, maintaining information about connections between mobile units and neighboring Base Stations, wherein the information is selected from the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.

18. (Original) Method, according to claim 17, wherein the handset detection status information comprises information selected from the group consisting of number of successful PING, time of last successful PING, quality measurements for successful PINGs.

19. (Original) Method, according to claim 13, wherein the mobile unit is a device selected from the group consisting of:

telephone handset, standard cordless telephone handset, cellular telephone handset, personal data device, personal digital assistant (PDA), computer, laptop computer, e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet via a central remote access server,a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.

20. (Original) Method, according to claim 13, further comprising:

providing communication links between the Base Stations, wherein the communication links between the Base Stations are selected from the group consisting of RF links and land lines; and

transferring connection status information and rough synchronization information between the Base Stations over the communications links.

21. (Original) Method, according to claim 13, wherein:

the wireless communication system comprises a wireless private branch exchange (**WPBX**) handling calls from mobile units comprising handsets.

22. (Original) In a system that includes a mobile unit and a plurality of Base Stations, and wherein a first one of the Base Stations communicates with the mobile unit during preselected time intervals, a method for another Base Station to detect the mobile unit, comprising the steps of:

the first Base Station periodically yielding a time interval; and

during said time interval that has been yielded by the first Base Station, at least one neighboring Base Station communicating with the mobile unit.

23. (Original) Method, according to claim 1, wherein said communicating with the mobile unit from said at least one neighboring Base Station includes transmitting to the mobile unit by said at least one neighboring Base Station.

24. (Original) Method, according to claim 13, wherein the at least one Base Station waiting for the mobile unit to enter its coverage area starts to monitor

said ECHO reply when an initial connection of the mobile unit to any one of the Base Stations is created.

25. (New) Method, according to claim 3, wherein the at least one Base Station waiting for the mobile unit to enter its coverage area sends a plurality of said PING commands to the mobile unit.

26. (New) Method, according to claim 13, wherein the Base Station connected with the mobile unit sends a plurality of said PING commands to the mobile unit.